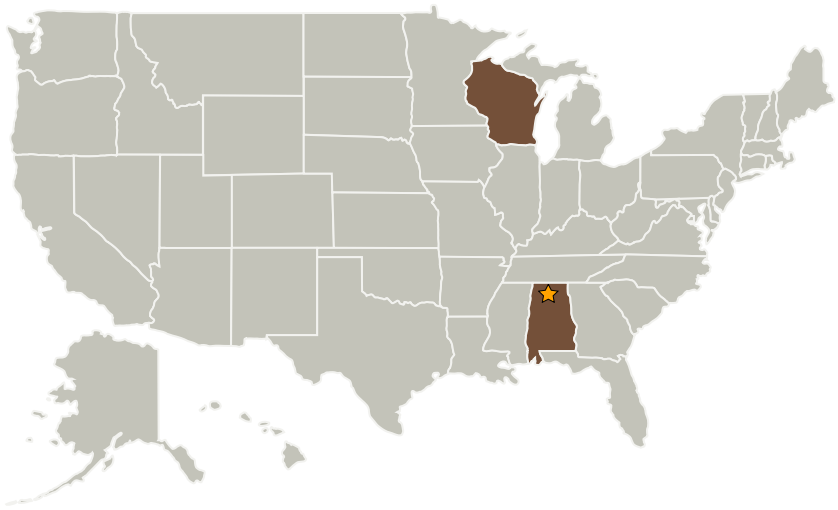
Accelerated Wound Healing Device Using Light Emitting Diodes (LEDs) Biostimulation to Support Long Term Human Exploration of Space, Phase I

Completed Technology Project (2004 - 2004)

Project Introduction

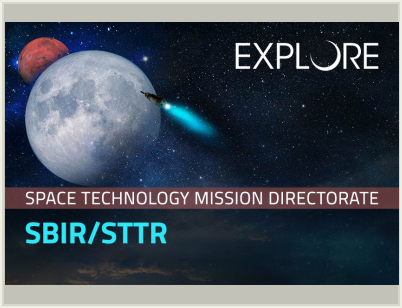
Several cases of minor cuts in microgravity have been reported not being able to heal until return to Earth. While the exact cause for the slow healing in space environment is still been theorized, initial studies on cells exposed to micro- and hyper-gravity have suggested that the growth of human cells is heavily regulated by the gravity. As the gravitational force increases or decreases, the cell function responds in a linear fashion. Typically, the faster the cell growth, the quicker the healing process. Thus, development of technologies that can accelerate the wound healing is crucial to NASA's space exploration mission.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Marshall Space Flight Center(MSFC)	Lead Organization	NASA Center	Huntsville, Alabama
Quantum Devices Inc	Supporting Organization	Industry	Barneveld, Wisconsin

Primary U.S. Work Locations	
Alabama	Wisconsin



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Marshall Space Flight Center (MSFC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Ronald Ignatius

Technology Areas

Primary:

- TX03 Aerospace Power and Energy Storage
  - TX03.1 Power Generation and Energy Conversion
    - TX03.1.6 Other Advanced Concepts for Generating/Converting Power